



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

May 23, 2011

Kenny McDaniel, Burns District Manager
BLM, Burns District Office
28910 Highway 20 West
Hines, Oregon 97738

Re: U.S. Environmental Protection Agency (EPA) comments for the Celatom Mine
Expansion Draft Environmental Impact Statement (DEIS).
EPA Project Number: 08-056-BLM.

Dear Mr. McDaniel:

The Environmental Protection Agency (EPA) has reviewed the draft EIS for the proposed Celatom diatomaceous earth mine expansion located in Henry and Malheur Counties, Oregon. Our review was conducted in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Under our policies and procedures, we evaluate the environmental impact of the proposed action and the adequacy of the impact statement.

The current mine involves three open pits and the proposed expanded mine life is 50 years. The total acreage of existing and expanded disturbance encompasses 8,115 acres of BLM land, 1,280 acres of state land, 1,640 acres of private land, and 1,600 of private surface estate. The proposed mine areas are referred to as the North Kelly Field, Hidden Valley, and Eagle Mine. The DEIS analyzes the no action alternative and two action alternatives: Proposed Alternative 2 and Proposed Alternative 3 with additional design elements. The additional design elements include restricting mine access, maintaining and developing stock water ponds, and removing a sediment basin.

The DEIS clearly describes the regulatory framework of each resource area; however, there is a lack of information on key components such as monitoring, basis for environmental predictions, mine reclamation, financial assurance and groundwater and surface water impacts. Due to this lack of information and concerns associated with impacts to water resources we have assigned a rating of EC-2 (Environmental Concerns - Insufficient Information) to the Draft EIS. Our discussion of these issues is below. Please see Attachment 1, EPA's specific comments, for additional questions and recommendations.

MONITORING

The EIS briefly states that monitoring will be required and refers to Appendix 62 of the Mine Plan Operations (MPO). This section of the MPO is not included in the EIS and is only available in person. Therefore, it is not readily accessible for review. Because of this we are unclear about the specifics of a monitoring plan.

The NEPA analysis should describe project monitoring in some detail. We recommend as a general rule that the level of effort afforded monitoring be commensurate with the complexity of the project and the risk to and sensitivity of the affected environment if a project is permitted and/or approved. As a first step, we recommend that the NEPA analysis clearly define the goals and objectives of monitoring, and present an overall monitoring strategy for the project. Second, the NEPA analysis should provide enough detail on the monitoring program for reviewers to evaluate whether the goals and objectives of monitoring will be achieved. This can generally be satisfied by providing summary information on monitoring (including a list of measurement parameters, methods, locations, frequency, data analysis, and reporting). In addition, we recommend that alternatives include clear requirements for regular analysis and reporting of data to oversight agencies, and include a requirement that the operator submit a full sampling and quality assurance plan for agency approval. The NEPA analysis should discuss who will conduct monitoring, the frequency and how monitoring will direct management decisions. Please provide this information in the final EIS.

We also recommend that the final EIS include past monitoring data from current operations and discuss the sources of elevated levels of water quality parameters or impacts to other resources, using data collected by the company and agency inspections during operation of the existing mine. The final EIS should also disclose any issues encountered from implementing the plan and how they were addressed, which will inform future monitoring.

ENVIRONMENTAL PREDICTIONS

Throughout the EIS there are conclusive statements about water quality impacts; however, the source or basis of these predictions is unclear. The following are examples where we have concerns with the clarity of information in the EIS related to surface water and groundwater.

Surface Water- Section 4.15.1 notes that the primary cause of water quality degradation on public land is from non-point sources causing sediment and temperature increases. Section 4.15.3.3.2 includes three sentences about impacts on surface water and one briefly states that there would not be any impacts. It is not clear what the basis of this statement is. The EIS does not include any numerical data or information on modeling. Furthermore, the list of parameters in Table 4.15-3 for surface water quality does not include temperature or total suspended solids as measured criteria. These are standard criteria and should be included in the analysis of water quality impacts. The EIS should include predicted values and reference to specific scientific research and/or explanation with modeled predictions.

We understand from the EIS that this region is semi-arid and that many streams may be either intermittent or ephemeral. However, the EIS does not clearly describe the setting and presence of surface water in the project area. We believe that the contribution of small, intermittent, and ephemeral streams to the overall watershed should be considered in the analysis. The section on surface water features only includes a short description of Altnow Reservoir; however the section on hydrology includes a list of tributaries draining to larger order streams in the project area, which are not discussed under surface water features. There is also

no discussion of water quality impaired streams in the project area. The EIS should more fully discuss the presence, sizes and quality of the water in the project area.

Groundwater- One of the major issues associated with this mine is the presence of acid generating material (unoxidized diatomite). Throughout the document there are multiple instances stating that there would not be a pit lake at the end of mining due to mining above the water table and there are statements that mining could occur below the water table at the Kelly Field pit. There are also instances where the document states that if there is mining below the water table that a mine pit lake would not occur due to evaporation (82 gpm) exceeding inflow (50 gpm). The document discusses the location of shallow groundwater and process for backfilling pit to reduce migration of contaminants and increase evaporation of a pit lake. The document is very confusing to follow regarding mine operations, groundwater characterization and impacts. There is no disclosure of the probability of the various scenarios and therefore, it is not clear how likely it is that migration could occur. Additionally the EIS states that the current conceptual model shows that migration would only be possible in the proposed pits east of the Upper Mill Gulch Fault; however, the EIS does not discuss which mine areas would exist in this vicinity. The DEIS lacks justification for this statement and it seems to conflict with the prediction of no impacts to groundwater. We recommend that the final EIS clearly and concisely characterize all of the open pits in one section, disclose the probability of various scenarios, and provide reference to predictions of potential groundwater impacts.

RECLAMATION

The EIS describes the reclamation plan and states that backfilling of open pits would occur and that disturbed areas would be re-contoured or re-graded and planted to reestablish native vegetation communities. The EIS should also discuss how waste material would be handled prior to revegetation and if there is preferential handling of unoxidized material and plant processing waste. The EIS should disclose whether or not there is a risk of leaching from vegetated dumps during high run off or precipitation events.

This mine is known to contain acid generating material. This can be a major environmental risk if conditions create an acid rock drainage scenario (e.g., groundwater inflow or high precipitation event). The EIS discusses the pit walls of the Kelly Field and existence of acid generating material but there is not the same discussion for the other mine areas. Also, the EIS does not clearly explain what the reclamation of the current pit lakes is, which have measured low pH. The previous Environmental Analysis was completed in 1985. We strongly recommend that the final EIS evaluate mine closure as a whole and consider more current information and operating procedures when finalizing the detailed reclamation plan.

FINANCIAL ASSURANCE

The EIS does not include any details regarding financial assurance, which we recommended in our scoping comment letter dated October 9, 2008. NEPA provides for the disclosure to the public and decision-makers all information concerning environmental consequences of a proposed action before the decisions are made and before actions are taken. NEPA does not directly refer to disclosure of financial assurances. However, a key component to determining the environmental impacts of a mine is the effectiveness of closure and reclamation activities, including long-term water management. The amount and viability of

financial assurance are critical factors in determining the effectiveness of reclamation and closure activities and, therefore, the significance of the environmental impacts. The final EIS should include details about the bond mechanism and a range of costs so that there is a context for understanding the cost of ensuring that the mine is appropriately reclaimed and closed. We are available and willing to explore this issue with you more and we welcome any information you have related to the existing bond and proposed estimate.

Thank you for the opportunity to review this EIS. Please feel free to contact me at (206) 553-1601 or by electronic mail at reichgott.christine@epa.gov , or you may contact Lynne McWhorter of my staff as the NEPA Review Lead for this project at (206) 553-0205 or by electronic mail at mcwhorter.lynne@epa.gov , with any questions you may have.

Sincerely,



Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

cc: Oregon Operations Office

EPA Specific Comments on Proposed Celatom Mine Expansion

Section ES-6. The brief summary of geochemical characteristics only discusses the Kelly Field. This occurs throughout the document while other pits contain unoxidized material as well yet their impacts are not disclosed. We assume that this is because Kelly Field may be the only pit that could be mined below the water table; however, it is not clear what the fate and transport of contaminants from the other proposed and current pits that contain acid generating material (e.g., low pH data in Table 4.15-4). Please discuss the geochemistry of the other pits including pit walls in detail and their potential environmental impacts.

Section 3.2.11.3. The EIS discusses mine reclamation and pit backfilling and states that Kelly Field could have "an engineered partial backfill as described in Section 3.2.4." However, Section 3.2.4 was not included in the document nor was available on the online version. Please include this information in the EIS.

Section 3.2.11.8.2. The first paragraph states that Kelly Field would not be mined below the water table. The second paragraph states that the Kelly Field could be mined below the water table. Please clarify whether or not it is reasonably foreseeable that the Kelly Field would be mined below the water table. Furthermore, the analysis should include a reasonably foreseeable, worst case scenario regarding the potential impacts from mining any pit below the water table and what reclamation or post closure activities would be required to protect the environment.

Section 4.3. This section describes the geology and minerals of the project site. It would be helpful if there were figures illustrating the geologic strata with depths. Please include this in the final EIS.

Section 4.15 Water Quality. The EIS included Figure 4.15.1, which illustrates water resources in the project area. It would be helpful if this figure also included a layer illustrating current and proposed mine operations so that the reviewer can understand proximity of the mine operations to water resources. Please include a figure with both of these layers in the final EIS.

Section 4.15.2.1. Throughout the document there are instances where the information presented is vague and connections to previous sections are not made. One example is the following sentence on Pg 90, "The basic issue is that one of the proposed pits may be excavated below the water table..." We assume this is referring to the Kelly Pit although this is not clear and we strongly recommend practicing redundancy particularly when discussing significant issues such as acid rock drainage.

Section 4.15.3.4. The EIS discusses groundwater interaction with the Eagle Mine and Hidden Valley and states that low K values for diatomite pit walls and floors would minimize seepage. The EIS should include what the K values for hydraulic conductivity are and provide the basis for the conclusion that seepage would be minimized and by how much.

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.